

What is claimed is:

1. A bonding wire comprising a core and a coating layer formed on the core, wherein the coating layer is formed from a metal having a higher melting point than the core, and the wet contact angle with the coating layer when the core is melted is not smaller than 20 degrees.
2. A bonding wire comprising a core composed mainly of copper and a coating layer formed on the core, wherein the coating layer is formed from an oxidation resistant metal having a higher melting point than the core, and wherein when the bonding wire is hung down with its end touching a horizontal surface, and is cut at a point 15 cm above the end and thus let drop onto the horizontal surface, the curvature radius of the formed arc is 35 mm or larger.
3. The bonding wire according to claim 2, wherein the curvature radius of the formed arc is 40 mm or larger.
4. A bonding wire comprising a core composed mainly of copper and a coating layer formed on the core, wherein the coating layer is formed from an oxidation resistant metal having a higher melting point than the core, and wherein the 0.2% yield strength is not smaller than  $0.115 \text{ mN}/\mu\text{m}^2$  but not greater than  $0.165 \text{ mN}/\mu\text{m}^2$ .
5. The bonding wire according to claim 4, wherein the 0.2% yield strength is not smaller than  $0.125 \text{ mN}/\mu\text{m}^2$  but not greater than  $0.155 \text{ mN}/\mu\text{m}^2$ .
6. A bonding wire comprising a core and a coating layer formed on the core, wherein the coating layer is formed

from a metal having a higher melting point than the core,  
and wherein the Vickers hardness of the coating layer is  
300 or lower.

7. The bonding wire according to claim 1 or 6, wherein  
5 the core material is composed mainly of copper.

8. The bonding wire according to any one of claims 2 - 5  
and 7, wherein the coating layer is formed from a metal  
whose melting point is at least 200°C higher than that of  
copper.

10 9. The bonding wire according to any one of claims 2 -  
5, 7 and 8, wherein the elongation per unit cross sectional  
area is 0.021%/μm<sup>2</sup> or more.

10. The bonding wire according to any one of claims 2 - 5  
and 7 - 9, wherein the core contains other elements than  
15 copper in a total amount not smaller than 0.001 weight  
percent but not larger than 1 weight percent relative to  
the weight of the core.

11. The bonding wire according to claim 1 or 6, wherein  
the core material is composed mainly of silver.

20 12. The bonding wire according to claim 6, which has a  
coating layer B whose Vickers hardness is 150 or less,  
outside of the coating layer, as the utmost layer.

13. The bonding wire according to claim 12, wherein the  
material for the coating layer B is gold.

25 14. The bonding wire according to claim 12 or 13, wherein  
the thickness of the coating layer B is smaller than that  
of the coating layer and not larger than 0.002 times the  
wire diameter.

15. The bonding wire according to any one of claims 1 - 14, wherein the coating layer is formed from a metal composed mainly of at least one element selected from the group consisting of palladium, platinum, and nickel.
- 5 16. The bonding wire according to claim 15, wherein the coating layer is formed from palladium.
17. The bonding wire according to any one of claims 1 - 16, wherein the thickness of the coating layer falls within the range satisfying as  $0.007 \leq Y \leq 0.05$ , where  $Y = (\text{cross sectional area of coating layer} / \text{cross sectional area of core})$  in the cross section when the wire is cut vertically.
- 10 18. The bonding wire according to any one of claims 1 - 17, wherein a different metal layer is provided between the core and the coating layer.
- 15 19. An integrated circuit device that is produced by using the bonding wire according to any one of claims 1 - 18.